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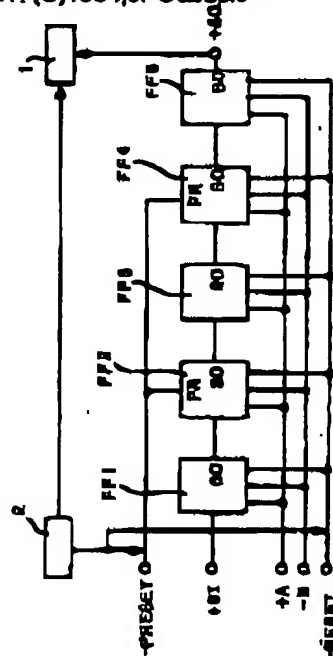
(54) DETECTION OF DEFECTIVE FLIP-FLOP IN  
SERIAL SCAN CHAIN

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## (57) Abstract

**PURPOSE:** To specify a defective FF by setting respective FFs of a serial scan chain, enabling presetting, shifting a scan after the respective FFs are set in a prescribed value, and comparing an output bit row of the chain and a preset bit row with each other.

**CONSTITUTION:** A negative pulse is impressed upon a reset terminal, and FF1-FF5 are cleared to (0). Next, a negative pulse is impressed upon a preset terminal, and the FF1-5 are set in (0, 1, 0, 1, 0). Next, a scan is shifted to a scan chain, and the bit pattern is detected, and it is compared with an initial bit row (0, 1, 0, 1, 0) by a comparing part 1. An expected bit row is (0, 1, 0, 1, 0), and when it is different from this, it means that a defective FF exists in the chain. In this case, since an output bit row becomes immovable to the expected bit row with the FF as its boundary, an immovable place or the next stage can be specified as the defective FF.



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